

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) An optical interleaver comprising:
a first collimating lens for collimating an input optical signal into collimated beams, the input optical signal including more ~~then~~ than one wavelength, and a second collimating lens for focusing said collimated ~~parallel~~ beams into an output optical fiber; and
a phase delay generating means partially interposed between said first and said second collimating lens such that only a portion of said collimated beams pass through said phase delay generating means, said phase delay generating means operable to delay a phase of at least one wavelength of an optical signal present in said input optical signal such that when the said collimated beams are focused by the said second collimating lens, the at least one wavelength is suppressed while other wavelengths are transmitted through the output optical fiber. ~~for generating substantially one phase delay difference between portions of said collimated parallel beams, wherein the phase delay difference generating means is optically coupled between said first and said second collimating lens for generating an interference pattern when said collimated parallel beams are focused by said second collimating lens, the interference pattern resulting in a suppression of one or more wavelengths.~~
2. (Currently amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a glass plate blocking a portion of said collimated ~~parallel~~ beams for generating a phase delay for a portion of said collimated parallel beams passing therethrough.

3. (Currently amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a glass plate having an upper portion covering an upper portion of said collimated ~~parallel~~ beams and said glass plate having a lower portion covering a lower portion of said collimated ~~parallel~~ beams for generating a phase delay difference between said upper portion and lower portion of said collimated ~~parallel~~ beams.
4. (Previously presented) The optical interleaver of claim 1 further comprising:
a control means for controlling said phase delay difference generating means for selectively generating signal transmission at different wavelengths according to said interference generated in said second collimating lens.
5. (Previously presented) The optical interleaver of claim 4 further comprising:
said phase delay difference generating means comprising a glass plate having a plurality predefined segments with different combination of plate-thickness and diffraction index wherein said phase delay difference generating means is controlled by said control means for selectively generating signal transmission at different wavelengths with a predefined program.
6. (Currently amended) The optical interleaver of claim 1 wherein:
said phase delay difference generating means comprising a set of cascaded ~~Mach-Zander~~ Mach-Zender interferometer for generating a series of band-pass signal transmissions.
7. (Currently amended) The optical interleaver of claim 6 wherein:
each of said a set of cascaded ~~Mach-Zander~~ Mach-Zender interferometer comprising a phase delay plate and a half-pitch GRIN lens.

8. (Currently amended) The optical interleaver of claim 6 wherein:
each of said a set of cascaded ~~Mach-Zanter~~ Mach-Zender interferometer
comprising a phase delay plate and a pair of focus and collimating lenses.
9. (Currently amended) The optical interleaver of claim 1 further comprising:
a reflective means for reflecting a portion of said collimated beams as second
group of parallel beams transmitted along a second optical path away from said
collimated ~~parallel~~ beams;
a third collimating lens for focusing said second group of parallel beams into a
second output optical fiber; and
a second phase delay difference generating means for generating a second phase-
delay difference between portions of said second group of parallel beams for generating
an interference in said third collimating lens for selectively enhancing signal transmission
of a second set of wavelengths outputting from said second optical fiber.
10. (Currently amended) The optical interleaver of claim 9 wherein:
said reflective means comprising a partially reflective front surface of said phase
delay means and a mirror for reflecting a portion of said collimated beams as second
group of parallel beams transmitted along a second optical path away from said
collimated ~~parallel~~ beams.
- 11 (Canceled)
12. (Previously presented) The optical interleaver of claim 1 further comprising:
a control means for controlling said phase difference generating means controlling
a selection of certain wavelengths for enhanced signal transmission.
13. (Previously presented) The optical interleaver of claim 1 wherein:

said phase difference generating means further comprising an optical element for transmitting optical beams therethrough.

14. (Previously presented) The optical interleaver of claim 13 wherein:

said phase difference generating means further comprising said optical element for transmitting optical beams therethrough with at least two portions of different thicknesses.

15. (Previously presented) The optical interleaver of claim 13 wherein:

said phase difference generating means further comprising said optical element for transmitting optical beams therethrough with at least two portions of different diffraction indexes.

16. (Currently amended) A method ~~for configuring an optical interleaver~~ of interleaving an optical signal comprising:

receiving an input optical signal, the input optical signal including more than one wavelength;

collimating the input optical signal into collimated beams;

phase delaying a portion of the collimated beams, the collimated beams divided into a delayed portion and a non-delayed portion; and

focusing both the delayed portion and the non-delayed portion of the collimated beams such that at least one wavelength is suppressed while other wavelengths are transmitted.

~~providing a first collimating lens for collimating an input optical signal into collimated beams, the input optical signal including more than one wavelength, and a second collimating lens for focusing said collimated parallel beams into an output optical fiber; and~~

~~positioning between the first and second collimating lens a phase difference generating means for generating a phase difference between different portions of optical beams, for generating an interference pattern resulting in a suppression of one or more wavelengths, for~~

~~selecting a plurality of single wavelength signals in the optical beams, and where said collimated parallel beams are fused by said second collimating lens.~~

17. (Currently amended) The method of claim 16 further comprising:
~~employing a control means for controlling said phase difference generating means~~
controlling a selection of certain wavelengths for enhanced signal transmission.

18. (Canceled)

19. (Currently amended) The ~~optical interleaver~~ method of claim 18 ~~wherein 16~~
further comprising:

phase delaying a first portion of the collimated beams by a first amount; and
phase delaying a second portion of the collimated beams by a second amount.
~~said step of employing said optical element for transmitting said optical beams~~
~~therethrough is a step of employing said optical element with at least two portions of~~
~~different thicknesses for transmitting said beams through.~~

20. (Currently amended) The ~~optical interleaver~~ method of claim 18 ~~16 further~~
comprising wherein: ~~said step of employing said optical element for transmitting said~~
~~optical beams therethrough is a step of employing said optical element with at least two~~
~~portions of different diffraction indexes for transmitting said beams through.~~

phase delaying a plurality of portions of the collimated beams, each portion of the
collimated beams phase delayed by a different amount.

21. (Canceled)